

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Northern Virginia Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Motiva Enterprises LLC
Fairfax Terminal
8300 Pickett Road
Fairfax, Virginia
Permit Number VA-70248

The Clean Air Act Amendments of 1990 required each state to develop a permit program to ensure that certain facilities have a federal Air Pollution Operating Permit referred to as a Title V Operating Permit. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Motiva Enterprises LLC, formerly Star Enterprise, has applied for a Title V Operating Permit for its Fairfax Terminal Facility. The Department has reviewed the application and has prepared a draft Title V Permit.

Engineer/Permit Contact:_____ Date:_____

Air Permit Manager:_____ Date:_____

Regional Permit Manager:_____ Date:_____

FACILITY INFORMATION

Permittee:

Motiva Enterprises LLC
8300 Pickett Road
Fairfax, Virginia 22031

Facility:

Motiva Enterprises LLC
Fairfax Terminal
8300 Pickett Road
Fairfax, Virginia 22031

AIRS Identification Number: 51-059-0069

SOURCE DESCRIPTION

SIC code number: 5171

The Motiva Enterprises LLC facility, formerly Star Enterprise - Fairfax Terminal, is a petroleum liquids storage and distribution terminal (SIC Code 5171- Bulk Stations and Terminals). The original registration application is dated July 11, 1972. At that time tanks 30801, 30802, and 30803 stored #1 fuel oil; tank 30804 stored diesel; 30805, 30806, 30807, and 30808 stored gasoline (tanks equipped with internal floating roofs); and tank 31536 stored #2 fuel oil. There was also a tank, 12534, which was an underground storage tank for fuel oil. No permit was required.

The facility receives gasoline, diesel, and aviation jet fuel via a common carrier pipeline. Gasoline, diesel and aviation jet fuel receipts are diverted into nine above-ground storage tanks: six for gasoline, one for diesel fuel and two for aviation jet fuel storage. Four storage tanks are used for additives - one for gasoline additive; one for red dye additive, one for premium diesel additive, and one for general additives. Additives are received by tanker trucks. Aviation jet fuel is sent directly to Washington-Dulles Airport via pipelines. The gasoline, diesel and gasoline additives are pumped to a five lane loading rack equipped with 35 total risers used to load trailer tank trucks. All of the risers are connected to a vapor collection system and an associated vapor recovery unit (VRU). The loading rack was upgraded in 1992, which reduced the number of lanes from six to five, and made all positions bottom loading. The terminal has three underground storage tanks - two oil-water separators, and one product reclaim tank.

Vapors from the loading rack are directed to the vapor recovery unit (VRU) which is located on Motiva property but shared with Old Dominion, L.L.C. and Citgo Petroleum Corp., and operated by Citgo. By contractual arrangement Citgo operates the VRU, performs the maintenance, and obtains any permits associated with it's operation.

The VRU is comprised of two Edwards Engineering DEC 3000 condensing units. As originally designed and installed the capacity of these units would limit VOC emissions from all three terminals to 80 mg/l of gasoline loaded. In 1996 in order to further enhance the unit capability a modification to the

unit added a liquid nitrogen (LN₂) cooling system which greatly increased the capacity of the units. Each unit is capable of processing the vapors from all three terminals with a maximum emission of 10 mg/l or less of gasoline loaded. Both DEC 3000 units operate continuously, except when one unit is taken down for maintenance. Vapors from the racks are condensed and stored in an underground tank where gasoline and water are separated. A bladder tank is on-line to accept excessive vapors/fumes.

Tank trucks arriving at the rack log in manually. They are also identified by a computer chip which is located in the tanker grounding strap. When certification is verified the tanker is then loaded. If the identification is not validated the driver must show evidence of the vapor tightness compliance for his tanker or it will not be loaded.

COMPLIANCE STATUS

Motiva Enterprises LLC, Fairfax Terminal is inspected semi annually. The last inspection occurred on August 20, 1999 and was determined to be in compliance.

SIGNIFICANT EMISSION UNITS AND CONTROLS					
Emission Unit	Description	Size/Cap.	Product*	Pollutant	Control
32803	Storage Tank	1,151,656 gal	Gasoline	VOC	IFR & Throughput
32804	Storage Tank	1,153,404 gal	Gasoline	VOC	IFR & Throughput
32805	Storage Tank	1,043,574 gal	Gasoline	VOC	IFR & Throughput ¹
32806	Storage Tank	1,043,574 gal	Gasoline	VOC	IFR & Throughput
32807	Storage Tank	2,347,464 gal	Gasoline	VOC	IFR & Throughput
32808	Storage Tank	2,347,464 gal	Gasoline	VOC	IFR & Throughput
-	Loading Rack	180,000 gal/hr ¹	Gasoline	VOC	Vapor Recovery Unit

* Gasoline is the primary pollutant emitted. Emissions are based on "worst case".

1. Maximum throughput of pumps

EMISSION INVENTORY

A copy of the current emission inventory for the previous year (1998) is attached.

Volatile Organic Compounds (Including HAP's) ¹		
Description	Annual – tons/year	Method
Tank Loss – ALL	10. 85	AP-42 (Tanks Model)
Loading Rack/VRU Loss – Gasoline	57.57	AP-42 (Tanks Model)

Volatile Organic Compounds (Including HAP's)¹		
Fugitives	0.64	AP-42 (Tanks Model)
Total	69.06	-

¹ Based on a throughput of 500, 000,000 gal. of gasoline throughput . Gasoline used as worst case.
 All except VRU are fugitive emissions.

HAZARDOUS AIR POLLUTANT EMISSIONS

Actual HAPs - tons/year						
MTBE	n-Hexane	Toluene	Xylenes (Mixed)	Benzene	Isooctane	Ethyl Benzene
7.34	0.87	0.75	0.36	0.25	0.44	0.08

Total HAP emissions are 10.09 tons/year.

EMISSION UNIT APPLICABLE REQUIREMENT

Limitations

The following limitations are SIP requirements under Rule 4-37:

1. Storage tanks with a capacity of 40, 000 gallons or more must have a control device that will reduce VOC emissions by 90% by weight. Tanks 30803, 30804, 30805, 30806, 30807, and 30808 are equipped with internal floating roofs (IFR) with seals. The contents of tanks 30801, 30802, 31536 and additive tanks have Reid vapor pressures less than 1.5 psi. (9 VAC 5-40-5230. B)
2. No owner or other person shall cause or permit the discharge into the atmosphere from a bulk gasoline terminal (including any appurtenant equipment necessary to load the tank truck compartments) any volatile organic compound in excess of 0.67 pounds per 1000 gallons of gasoline loaded unless such is equipped with a vapor control system (VCS). The loading rack is equipped with a vapor recovery unit (VRU). (9 VAC 5-40-5220. C)
3. The loading rack must be equipped for bottom loading - all bays. (9 VAC 5-80-100. B. 2)

The following are 40 CFR 60, Subpart XX Requirements

1. Emissions from the vapor recovery unit shall not exceed 10 mg/l of gasoline loaded. This limitation is applicable because the source requested this limitation. The source requested that a record be kept of this reduction in hopes of trading the resulting emissions reductions in the event the Commonwealth approves emissions trading.
2. A tanker trucker must present documentation of the vapor tightness of the tank prior to loading. This is found at Condition II. E. 4.

3. Vapor tightness of the loading rack and VRU must be verified by monthly inspections during the loading of tanker trucks. Sight, sound, and smell are acceptable means for the determinations. Findings must be recorded in a log book and the log must be retained on site for review by appropriate inspectors. This requirement is found in the Title V permit at Condition II, E. 2. b. (1.).

MACT Applicability

Motiva (formerly Star) has requested throughput limits and HAP limits under 9 VAC 5-80-10 and 9 VAC 5-80-100 B. 2. to make it clear that it does not have the potential to emit at the major source level for HAPs. Motiva is not taking the limits to change its status from major to minor in order to avoid applicability to Subpart R.

Motiva is not a major HAP source and, therefore, it is not subject to Subpart R. The following table shows Motiva's current throughput and HAP emissions and the emissions resulting from permit limits requested in both NSR and Title V permit applications. Because it is located in a nonattainment area, Motiva has been required to install controls for VOC emissions. Since most of Motiva's HAP emissions are also VOCs, Motiva's HAP emissions are controlled as well. A NSR permit is required before Motiva can modify the terminal for enough throughput approach HAP applicability. Motiva currently can not have the PTE to be a major HAP source.

Status	Gallons per year	MTBE - tons/yr	Total HAP - tons/yr
Actual emissions - (1998)	237,000,000	2.5	3.3
Current Limit (Title V and NSR)	500,000,000	7.3	4.5
Maximum throughput limit before new permit required	790,000,000	8.6	11
Approximate Limit for MACT applicability	985,000,000	>9.8	>15

According to 40 CFR 63, Subpart R-National Emission Standards for Gasoline Distribution Facilities, 40 CFR 63.420 (a)(2), the affected facility to which the provisions of the subpart apply is each bulk gasoline terminal except those bulk gasoline terminals "For which the owner or operator has documented and recorded to the Administrator's satisfaction that the facility is not a major source,..."

According to 40 CFR 63, "major source" is defined in Subpart A and is a source with actual or potential HAP emissions, considering controls, of 10 or more tons per year of a single HAP or 25 or more tons per year of any combination of HAPs.

When using the inventory determination described in 40 CFR 63.420 (a) (2), the Subpart R

recordkeeping requirements contained in 63.428 (l) and (j) do not apply and, as stated in 40 CFR 63.420 (f) as amended Feb. 28, 1997, the source is not required to submit its inventory determination unless requested by the administrator. This is further emphasized in the preamble to the amendment, FR Vol 62 no. 40 p 9091 para. 6.

To summarize, Motiva (Star) is not a major HAP source, is not subject to Subpart R, and was not required to notify the Administrator that it was not a major source. Since it is not a major source, the throughput limits it has requested are not creating a "synthetic minor," they are simply stating the PTE.

Motiva notified the Administrator by letter (dated December 11, 1996 to Mr. Thomas Maslany). The letter stated that the facility did not meet the requirements of a major source under 40 CFR 63.9 and 63.428. There were existing permits that limited emissions and the facility was determined to be an area source.

Monitoring

Monitoring requirements are as follows:

1. Monitoring of tanks is found in the Title V permit at Condition **III. A. 1. d.** The emissions are estimated by the current revision of the EPA TANKS model. There may be an alternative method used provided prior approval is secured from both the EPA and DEQ.
2. Monitoring is required for VOC emissions from the VRU as described in Condition **II. C.1.a.** and **b.** The baseline for this is established during stack tests.
3. Additionally the Loading Rack and VRU are monitored by inspection for vapor/liquid leaks each calendar month at Condition **II. E. 2 . b. (1.)**
4. The monthly site inspection of all pumps, fittings, etc., at Condition **III. A. 2** assures that fugitive emissions will be minimized.

Recordkeeping and Reporting

All records of monitoring maintained to demonstrate compliance with the terms and conditions of this permit shall conform with 9 VAC 5-80-110 F and contain, where applicable, the following:

1. The date, place as defined in the permit and the time of sampling or measurements.
2. The dates analyses were performed.
3. The company or entity that performed the analyses.
4. The analytical methods used.
5. Results of such analyses.

6. Operating conditions existing at the time of sampling or measurement.
7. Records of all monitoring data and supporting information shall be retained for at least five years from the date the information was obtained unless a lesser date is indicated. Support information includes all calibration and maintenance records and all other data including modeling required by the permit. This data shall also include any deviations from permit requirements. The term "deviation" includes any exceedence of permit condition or any excursion from control performance indicator documented through periodic or compliance assurance monitoring. Results of this data contained in any applicable requirement shall be submitted to the Air Compliance Manager, Northern Virginia Regional Office with a copy to

U. S. EPA Region III
Air Protection Division (3AP00)
ATTN: NSPS-40 CFR 60 Subpart XX Coordinator
1650 Arch Street
Philadelphia, PA 19103-2029

Results shall be submitted no later than March 1 and September 1 of each calendar year. The report must be signed by a responsible official consistent with 9 VAV 5-80-80 G, and shall include the time period covered by the report - the time periods to be addressed are January 1 to June 30 and July 1 to December 31 (9 VAC 5-80-110 F).

8. The permit also requires periodic inspections of the internal floating roof, the associated seals and the associated recordkeeping and reporting for the inspections which is found at II. E. 1. b. (1.) and (2). By this permit all internal floating roof tanks are required to be inspected and recordkeeping and reporting are the same for all tanks which store gasoline. The tanks are also subject to 9 VAC 5-40-5200. Under the present operational mode tanks 30801, 30802, 31536, 6810, 6811, 6812, 6813, 31867, A-106 and A-107 are exempt from regulation because of the Reid vapor pressure of the liquid is below 1.5 psi.
9. The present vapor control unit for the loading rack, which is jointly shared by Motiva, Old Dominion Terminal, and Citgo Petroleum, was installed in 1989. It was modified by the addition of liquid nitrogen (LN₂) cooling which increased capacity/efficiency. Stack testing on May 21, 1997 demonstrated emissions through the unit for all products loaded of 8.63 mg/l and 9.13 mg/l of accountable product loaded. (Applicable NSPS Subpart XX limit is 35 mg/l, but source requested 10 mg/l limit.). The VRU as designed condenses vapors from each terminal, transfers the resulting liquid to a holding tank where water is separated from the product (excess vapors are sent to a bladder tank) and the product is returned to the original source.

The NSPS Subpart XX also requires tanker truck certification for vapor tightness.

This requirement is found at Condition II. E. 4.

Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms of this permit or as a part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than **March 1** each calendar year, a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to § 114(a)(3) and § 504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G and shall include:

1. The time period included in the certification - The time period to be addressed is January 1 to December 31.
2. A description of the means for assessing or monitoring the compliance of the source with its emissions limitations, standards and work practices.
3. The identification of each term or condition of the permit that is the basis of the certification.
4. The compliance status.
5. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-conformance.
6. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.
7. Such other facts as the permit may require to determine the compliance status of the source.

The certification as described shall be submitted to the Air Compliance Manager, Northern Virginia Regional Office, and a copy shall be sent to:

Clean Air Act Title V Compliance Certification (3APOO)
U. S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029
(9 VAC 5-80-110 K.5)

Streamline

The streamlining features for this permit are found in the periodic monitoring of the tanks, loading rack/VRU and the general site leak checks.

Generally Applicable Requirements

General requirements for organic liquid (gasoline) storage and transfer are found in 9 VAC 5-40-5200.

This regulation includes the certification and verification of the vapor tightness requirement for tanker trucks loading at this facility. Storage of a volatile organic liquid requires control - suppression or elimination of VOC emissions by 90%. This condition is met by the installation of an internal floating roof with appropriate seals. Emission controls of Subpart K, Ka, and Kb have been incorporated even though the facility is grandfathered.

Visible emissions are addressed in Conditions **III. A. 3** (generally). There are no opaque emissions of significance. Fugitive dust emissions are addressed specifically in Condition **III. A. 4**. The facility is paved and the only products are liquid petroleum. There are no visible emissions from these products and asphalt roads and aprons do not lend themselves to the generation of fugitive dust emission.

Future Applicable Requirements

There are no future applicable requirements at this time.

Non-applicable Requirements

Requirements, both federal and state, deemed non-applicable have been addressed in the permit at Condition **III. D**.

Requirements in the existing NSR permit at Conditions 5. & 6. which deal with throughput limits of distillates and Jet fuel are not applicable in this permit.

Exclusions

No specific exclusions from applicable requirements are known.

Determinations

Not Applicable

Standard Terms and Conditions

The draft permit contains those standard conditions that apply to essentially any major VOC source of this type. No source-specific standard conditions were developed for this facility.

Insignificant Activities

There are no insignificant activities other than those addressed in 9 VAC 5-80-720.

Public Participation

The proposed permit was placed on public notice in the **Washington Times** on January 21, 2000, and the comment period extended from publication date for 30 days. A copy of the newspaper notice is available for anyone who wants it.